# 9<sup>th</sup> Canadian Science Policy Conference November 1–3, 2017 | Shaw Centre, Ottawa, ON CSPC 2017

150 Years of Canadian Science and Innovation - How do we forge ahead?

# **CONFERENCE PROGRAM**







Dear CSPC 2017 delegates,

> We are experiencing an exciting time in Canada. While the country is celebrating its 150th anniversary, the science policy community is experiencing significant development. Canada

now has a Chief Science Advisor. Many of you, like myself, have been very passionate about the establishment of this position. After 40 years, a comprehensive review of Canadian fundamental science has been completed. After 40 years, a comprehensive review of fundamental science has been completed. There is a national endeavour for a more inclusive science ecosystem, amongst many other developments. I am pleased to see that they are all reflected in the 9th Canadian Science Policy Conference program, as they should be. However, we should not forget, there is much more work to be done. An innovative, efficient, and dynamic community requires systematic channels of communication and collaboration to reach our common goal for effective production and use of scientific knowledge for policies for the well-being of all Canadians. The Canadian Science Policy Centre has made a significant impact towards reaching this common objective by connecting diverse communities, sectors, and regions for effective communication and collaboration.

CSPC 2017 is an occasion to meet numerous members of the science policy community gathered from across the country. I wish you an excellent conference, and I look forward to engaging with you, in particular, to discuss the CSPC's five-year strategic plan, and hear your thoughts on how you envision CSPC's evolving role in our science policy landscape.

Sincerely,

**Mehrdad Hariri** CEO & President, Canadian Science Policy Centre



PRIME MINISTER · PREMIER MINISTRE

#### Dear Friends,

I am pleased to extend my warmest greetings to everyone attending the 9th Canadian Science Policy Conference.

This event brings together industry professionals, academics, government officials and other stakeholders to discuss science, technology and innovation policy. I am certain that delegates will benefit from the wide array of sessions planned for this conference, and will be inspired by the distinguished guest speakers.

I would like to commend the organizers for putting together an informative program that is sure to generate thoughtful discussions. This conference will certainly stimulate ideas that will shape science policy and help to ensure a prosperous future for all Canadians.

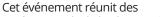
Please accept my best wishes for an enjoyable and productive conference in Ottawa.

Sincerely,

**The Rt. Hon. Justin P.J. Trudeau, P.C., M.P.** Prime Minister of Canada

Chères amies, chers amis,

Je suis heureux de présenter mes salutations les plus chaleureuses à celles et ceux qui assistent à la 9e Conférence annuelle sur les politiques scientifiques canadiennes.



professionnels de l'industrie, des universitaires, des représentants du gouvernement et d'autres intervenants pour discuter de politiques en matière de sciences, de technologie et d'innovation. Je suis convaincu que les délégués sauront tirer parti de la vaste gamme de séances prévues pour cette conférence et seront inspirés par les conférenciers de renom.

Je tiens à féliciter les organisateurs d'avoir mis sur pied un programme informatif qui donnera sûrement lieu à des discussions éclairées. Cette conférence contribuera certainement à générer des idées qui façonneront l'élaboration de politiques scientifiques et aideront à assurer un avenir prospère pour l'ensemble de la population canadienne.

Je vous souhaite une conférence agréable et productive à Ottawa.

Cordialement,

Le très hon. Justin P.J. Trudeau, C.P., député Premier ministre du Canada

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Your badge is your passport to all Conference events. Please wear your badge at all times.

#### Location

All Conference activities take place at the Shaw Centre. All session rooms are located on Level Two. The Evening of Celebration and Innovation on Wednesday evening will take place in the Trillium Ballroom on Level Four. All floors are accessible by elevator and escalator.

#### **Registration and Information Desk**

The Registration and Information Desk is located on Level Two outside of the Ottawa Salon. Note hours of operation:

#### Dress

Business casual attire is recommended for all sessions and functions with the exception of the Evening of Celebration and innovation where Business Attire is suggested. Please remember that meeting room temperatures may vary; it is advised to bring a jacket, scarf/shawl or sweater with you in case it is cool.

#### **Exhibition**

The Exhibit Booths are located in Gatineau Salon, located on Level Two. Exhibits will be open for visiting during all scheduled breaks and lunches during the conference, as well as during the Reception on Thursday November 2, 17:00 – 18:00

#### **Social Media**

Twitter: follow us at @sciencepolicy and join the conversation during the conference using #CSPC2017. Facebook: find us at facebook.com/canadiansciencepolicy

# Volunteer Organizing Committee

#### Program Committee Naveed Aziz, Co-chair Uzma Urooj, Co-chair Masha Cemma Alina Chan Jessica McQuiggan Renata Osika Homa Kheyrollah Pour

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Chad Atkins Alina Chan Nasim Haghandish Nathan Hambleton Jason Ivall Aaron Maxwell Renata Osika Bhairavi Shankar

# Panel Organizers by Company/Organization Name

### ACES-CAKE

- Actua
- Canada Aviation Space Museum
- Canadian Association for Graduate Studies
- Canadian Association of Science Centres
- Canadian Science Policy Centre
- Canadian Science Publishing
- Centre for the Study of Science and Innovation Policy (CSIP), JSGS, and University of Saskatchewan
- Council of Canadian Academies
- Embassy of Switzerland
- European Commission, Joint Research Centre
- Federation for the Humanities and Social Sciences
- Fisheries and Oceans, Ottawa
- Friends of CIHR
- Global Advantage Consulting Group Inc
- Hoffmann-La Roche Limited
- Human Rights Research and Education Centre University of Ottawa
- Innovation150
- Institute for Science, Society and Policy, University of Ottawa
- International Council for Science (ICSU)
- McMaster University
- Mitacs Inc.
- New Brunswick Social Policy Research Network
- Ontario Genomics
- Ontario Ministry of Innovation and Science
- Ontario SPOR Support Unit
- PIPSC & Evidence For Democracy (E4D)
- Polar Knowledge Canada
- Queen's University
- Ryerson University
- Science & Policy Exchange
- Science Slam Canada
- SHAD
- Spindle
- Structural Genomics Consortium (SGC)
- Tanenbaum Open Science Institute at The Montreal Neurological Institute
- Terre Policy Center, India
- TRIUMF
- University of Guelph
- University of Toronto
- York University

queensu.ca/research

**McDonald** 

Nobel Prize

Physics P Dr. Arthur B.

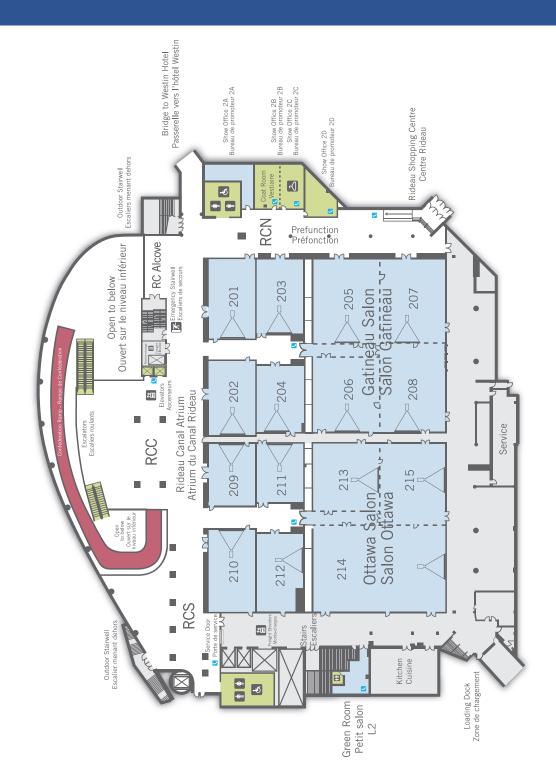
# **Community Friends**

# Exhibitors

# **Floor Plan**

- BeSpatial Consulting
- BIOTECanada
- Canadian Association of Postdoctoral Scholars
- Canadian Communication Association
- Canadian Nutrition SocietyCanadian Political Science Association
- Canadian Research Data Centre Network
- Canadian Science Publishing
- Canadian Society for the History and Philosophy of Science
- Canadian Society of Evidence Based Policing
- Carleton University, Canadian Centre for Evidence-Based Conservation and Environmental Management
- Carleton University, School of Public Policy and Administration
- Concordia University, School of Graduate Studies
- Cross Cultural Professional Association of Canada
- Cybera
- EURAXESS North America
- Evidence for Democracy
- FACETS
- Genome British Columbia
- HealthCareCAN/SoinsSantéCan
- Karafarin Canada
- Life Sciences Ontario
- Michael Smith Foundation for Health Research
- Refined Manufacturing Acceleration Process (ReMAP)
- Research Money
- Science Atlantic
- Science Borealis
- Talk Science to Me
- Techsploration
- The National Alliance of Provincial Health Organizations (NAPHRO) / L'allilance canadienne des organismes provinciaux de la recherche en santé
- University of Guelph, Biodiversity Institute of Ontario
- University of Ottawa, Chemistry Graduate Student Association

- Canadian Science Publishing
   CANARIE
- CIHR
- Genome Canada
- Heritage Canada
- Hoffman La-Roche
- MITACS
- National Research Council
- NIVA
- NSERC
  - Queen's University
- Research Impact Canada
- SmartSimple
- SSHRC
- The Evidence Network
- University of Toronto





#CSPC2017

# CSPC Special Program – An Evening of Inspiration and Celebration

# Celebrating 150 Years of **Achievement in Canadian Science**

**Co-Champions of the Evening:** 



Dr. Art McDonald,

Dr. Remi Quirion, Chief Scientist, Quebec

Professor Emeritus, Queen's University, Nobel Laureate (physics 2015)

#### **Evening Agenda**

- 17:30 17:40 Welcome and Introduction Agenda of the Evening National Anthem
- 17:40 17:50 CSPC remarks Mehrdad Hariri, CSPC President & CEO
- 17:50 18:00 Introduction of the Governor General by Dr. Remi Quirion, Quebec Chief Scientist
- 18:00 18:20 Governor General Address
- 18:40 18:55 CSPC Science Policy Award of Excellence, Presented by Minister Kirsty Duncan
- 18:55 19:05 Dr. Art McDonald introduction of Dr. Neil Turok
- 19:05 20:05 "We Are Innovators" Keynote by Dr. Neil Turok
- 20:05 20:10 Adjournment Coffee and Dessert





# Wednesday, November 1, 2017 · 17:30 – 20:30 · Trillium Ballroom

#### Featured Speaker:

Her Excellency, the Right Honourable Julie Payette, Governor General of Canada

# **Remarks By Governor General**

#### 18:00 - 18:20

Her Excellency, the Right Honourable Julie Payette is the current and 29th Governor General of Canada. She is also a Canadian businesswoman, former astronaut, and engineer. Payette has completed two spaceflights, STS-96 and STS-127, logging more than 25 days in space. She served as chief astronaut for the Canadian Space Agency (CSA), and has served as capsule communicator at NASA Mission Control Center in Houston.

Ms. Payette has received many distinctions, including 27 honorary doctorates, and can converse in six languages. She is an Extraordinary Companion of the Order of Canada, Extraordinary Commander of the Order of Military Merit, Commander of the Order of Merit for Police Forces, head of the Canadian Heraldic Authority and a Knight of the Ordre national du Québec.

#### Featured Speaker:

Dr. Neil Turok Director of Perimeter Institute for **Theoretical Physics** 

# **Keynote Lecture** 'We Are Innovators'

#### 19:00 - 20:00

This multimedia journey shares personal reflections on innovation and Canada's prospects—drawing insights from experiences at the cutting edge of science, technology, and social change. From seeing his parents jailed for resisting apartheid in South Africa, to study the Big Bang with Stephen Hawking, to working for the advancement of quantum science and technology in Canada, Neil presents a lively account of what innovation is and what it means for us all. He also explains why we must embrace the "four Cs" of innovation to build a brighter future for our country in a complex and challenging world.

9TH CANADIAN SCIENCE POLICY CONFERENCE

A member of the Ordre des ingénieurs du Québec and a fellow of the International Academy of Astronautics, she obtained an International Baccalaureate from the United World College of the Atlantic in the United Kingdom, a Bachelor of Electrical Engineering degree from McGill University and a Master of Applied Science in Computer Engineering degree from the University of Toronto. In addition, Ms. Payette has completed certificate programs in corporate governance and cybersecurity and holds a commercial pilot license.

#### Presenter

# 2017 CSPC Science **Policy Award of Excellence** -**Youth Category**

Presented by Minister of Science, Honourable Kirsty Duncan

Award Winner:

#### Sierra Clark, MSc Epidemiology Candidate

Institute for Health and Social Policy at McGill University

PROPOSAL: Residential wood-burning in Canada: Health and climate effects and intervention strategies

#### **Runner-Up:**

Dr. Deena Hamza, Postdoctoral Fellow in the Department of Family Medicine, at the University of Alberta

PROPOSAL: A Proactive and Cost-Effective Approach to Reducing Mental Illnesses

## Meagan Grabowski,

Researcher, Yukon Government

PROPOSAL: Modernizing the Yukon Scientists and Explorer's Act



**Kirsty Duncan** 

Winner



Runners-up



Dr. Deena

Hamza

# Fundamental research New knowledge Real-world solutions





Professor Ali Miri is developing a secure ecosystem for the Internet of Things. Why? Because the devices and systems accessing the world's information infrastructure are notoriously easy to hack. Ali's innovative IoT ecosystem will protect our privacy by eliminating vulnerabilities in the systems we use every day. Professor Lesley Campbell – an expert in plant evolution and assessing ecological risk – is exploring the evolution of the cannabis plant with the goal of breeding more effective plantbased pharmaceuticals to help people suffering from clinical pain.

The Faculty of Science is engaged in cutting-edge research that solves some of the most pressing problems of today – and tomorrow.

# **Program at a Glance**

# **CSPC Themes**

### Theme 1

What are Canada's likely challenges in the next 50 years, and how can scientific knowledge be used to solve them?

## Theme 2

How does Canada get the new scientific knowledge it needs?

#### Theme 3

How do we strengthen the environment for the production and integration of new scientific knowledge?

# Theme 4

How can we more effectively bring new and existing scientific knowledge to bear on Canada's challenges?

#### Theme 5

How do we engage the public in Canada's science system?

## Wednesday, November 1

07:00 – 17:00	<b>Registration and Information Desk</b> (Rideau Canal Atrium) Continental Breakfast available in the Atrium 07:30 – 09:00
08:30 - 12:00	Symposia
	Innovation150: Lessons Learned on Pan-organizational Outreach Collaborations (Trillium Ballroom)
	Science Policy 101 (Gatineau 205/207)
	The Next 150 years of Science in Canada: Embedding Equity, Delivering Diversity (Room 210)
	The Role of Academic Research in the Development of Highly Qualified Personnel (Room 209)
	Note: a refreshment break will be set up on the Gatineau Salon for symposia participants 10:00 – 11:00
12:00	Lunch for Symposia Registrants (Gatineau Salon)
13:00 – 13:05	Opening Remarks: Honourable Reza Moridi, Minister of Research, Innovation and Science (Ottawa Salon)
13:05 - 14:45	Artificial Intelligence and Discovery Science: Playing to Canada's Strengths
14:45 – 15:00	Coffee Break (Gatineau Salon)

# Ryerson University

# Faculty of Science

Mind & action intersect at Ryerson. Visit **ryerson.ca/intersect** to learn more.

#### 9TH CANADIAN SCIENCE POLICY CONFERENCE

# Program at a Glance

# Wednesday, November 1

15:00 - 16:30	106 – Riding The Wave – Energy and Environment (Room 212)
	201 – Teaching Kids to Code: Implications for Canada's Science Ecosystem (Gatineau 205/207)
	306-311 (Merged Panel) – How to Create Dynamic Agri-food Regulatory Policy in an Era of Accelerating Technological Innovation? (Room 210)
	307 – Contested Decisions: The Role of Boundary Organizations (Room 209)
	301 – Moving from Lab to Market: Models of Knowledge Translation in Canada (Room 211)
16:30	Reception (Rideau Canal Atrium)
17:30 – 20:30	Evening of Celebration and Inspiration, Celebrating 150 Years of Canadian Science Achievement (Trillium Ballroom)
21:00	Casual Cocktail (Location TBA)
<b>Thursday</b> , N	ovember 2
07:00 – 17:00	Registration and Information Desk (Rideau Canal Atrium)
07:45 - 08:25	<b>Breakfast Session: Book Launch</b> (Ottawa Salon) A Lantern on the Bow: A History of the Science Council of Canada and its Contributions to the Science and Innovation Policy Debate
08:30 – 10:00	Celebrity Chefs (Ottawa Salon) What Ingredients Make an Effective Supercluster?
10:00 – 10:30	Coffee Break (Gatineau Salon)
10:30 – 12:00	107 – Canada's Clinical Innovation in Fifty Years: The Future May Be Rare (Room 211)
	202 – Indigenous & Western Science: Gathering New Knowledge through Co-designed Research (Room 209)
	319 – Science Integrity: Jump-starting Public Science (45 minutes) (Room 212)
	325 – Scientists as Conveners and Ambassadors for Facts? Evidence Co-creation for a Hyper-complex Post-fact Politics (Gatineau 205/207)
	502 – Does Canada Have a Science Culture? (Room 210)
	503 – Bringing Soapbox Science to Canada: Shifting Gender Norms in Science (45 minutes) (Room 212)

12:00	Lunch (Gatineau Salon)
12:30 - 13:30	A Conversation with Canada's New Chief Science Advisor – Dr. Mona Nemer (Ottawa Salon)
13:30 – 15:00	309 – Science Diplomacy – An International Comparison (Room 211)
	314 – Science at Risk (45 minutes) (Room 210)
	321 – Bridging the Divide: Incorporating Up-to date Research Findings and Social Shifts into Public Policy (45 minutes) (Room 210)
	322 – Leveraging Federal Science: How Provinces Can Make a Difference in Strengthening Canadian Knowledge Production (Room 209)
	401 – How the Culture and Structure of Science Might Change to Address Grand Societal Challenges (Room 212)
	506 – Big Thinking Panel, Expertise in a Post-truth Era: How to be a Trusted Advisor in a Low-trust World (Gatineau 205/207)
14:30 – 18:00	Science Policy Awards of Excellence Poster Session (Gatineau Salon)
15:00 – 15:30	Coffee Break (Gatineau Salon)
15:30 – 17:00	101 – Designing the Scientific "Paper" of the Future (Room 211)
	304-313 (Merged Panel) – Mobilizing Research for Policy Impact (Gatineau 205/207)
	404 – The Canadian Science Policy Fellowship: Lessons from the Inaugural Year (Room 212)
	420 – When Technologies Meet: Challenges and Opportunities in an Era of Technology Convergence (Room 209)
	504-510 – Changing Perceptions: Engaging the Public with Scientists in the Era of Alternative Facts (Room 210)
17:00	Reception (Gatineau Salon) Investing in the Canadian Life Sciences Ecosystem: Hosted by CDRD and Merch
18:00	A Conversation with The Honourable Kirsty Duncan, Minister of Science (Ottawa Salon)
21:00	<b>CSPC Pub Night</b> (Metropolitain Brasserie)

# Program at a Glance

# Friday, November 3

07:00 - 17:00	Registration and Information Desk (Rideau Canal Atrium)
07:45	Breakfast Session: University Intramural Research Collaboration lain Stewart, National Research Council (Ottawa Salon)
08:30	Addressing Major Global Challenges through Science and Public Policy: Transdisciplinary and Multidimensional Approaches (Ottawa Salon)
10:00 - 10:30	Coffee Break (Gatineau Salon)
10:30 - 12:00	315 – Immigration, Integration and the Production and Utilization of Scientific Knowledge: What are Canada's Challenges? (Room 212)
	320 – The Internationalization of Canadian Science: Challenges and Opportunities (Room 211)
	405 – Open Science and Innovation (45 minutes) (Room 210)
	408 – The Scientific and Economic Benefits of Open Science (45 minutes) (Room 210)
	501 – Science Slam: An Interactive Framework for Engaging the Public in Canadian Science (Gatineau 205/207)
	515 - Short Talk Series organized by CSPC (Room 209)
	1 – Lessons Learned from the US White House on Using Science to Meet Policy Challenges
	2 – Lessons Learned: Immersion in Policy-making for Scientists and Engineers
	3 – Global Perspectives on AMR Innovation: What Does this Mean for Canada?
	4 – Breaking Down Barriers for Science Outreach
	5 – How to Ensure the Transparency of Scientific Study Designs, their Conduct, and Reporting
	6 – Data Science and Social Implications
	7 – Open Science is the New Normal for Knowledge Dissemination
12:00	Lunch (Gatineau Salon & Ottawa Salon)

12:30 - 13:30	The Fundamental Science Review: Perspectives as of November 2017 (Ottawa Salon)
13:30 – 15:00	104 – "Missing Numbers": How Girls and Women can Help Solve Canada's Innovation Crisis (Gatineau 205/207)
	316 – Science for Decision Making at Fisheries and Oceans Canada: The Past, Present, and Future (Room 209)
	409 – Realizing the Impact Chain – from Knowledge Mobilization to Impact (Room 210)
	508 – Engaging the Public Where They Live: Perspectives from Media Personalities and Strategists for Better Science Communication (Room 212)
15:00 - 16:00	Conference Wrap-up (Ottawa Salon)

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Visitez www.nrc-cnrc.gc.ca pour en apprendre davantage sur les activités du Conseil national de recherches du Canada visant à contribuer à l'innovation en entreprise, à appuyer les politiques publiques fédérales et à enrichir nos connaissances scientifiques.



Roche is a proud sponsor of the 2017 Canadian **Science Policy** Conference



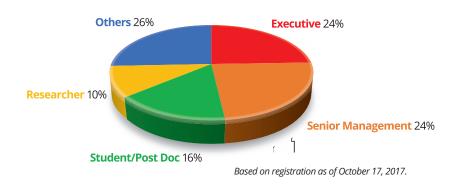
# The Annual Canadian **Science Policy Conference**

The Canadian Science Policy Conference (CSPC) is the largest national and non-partisan forum on science, technology, and innovation policy. CSPC has been able to facilitate constructive dialogue among Canadians across sectors, disciplines, regions, and generations and build an inclusive community of science policy.

The conference has been a platform to feature reports and projects from prominent organizations in science enterprise. It has become a major focal point for the science and innovation policy community to network, get engaged, and be heard on the most pressing science and innovation policy issues.

CSPC has attracted representatives of science and innovation policy from both the current leadership cadre and the next generation of Canada's top scientists, business leaders, and science policy experts. The figure below illustrates the CSPC 2016 attendee breakdown by sector and role.

#### CSPC 2017 Registration Breakdown



CSPC has had significant impacts on science policy in Canada including:

- Pioneered frontiers of science policy by tackling emerging topics
- Contributed to an inclusive agenda to drive growth by bringing under-represented minorities into science policy discourse and national stage
- Gateway for the future generation of scientists and policy-makers to science policy world
- Been the focal point for connectivity of communities individuals across regions sectors disciplines and generations
- Connecting the new generation of scientists and policy makers to the science policy landscape



NOVEMBER 1 - 3, 2017 · OTTAWA, ONTARIO

# CSPC Themes over the years

#### International

Canada's Return to the International Stage: How Can Science Help Foreign Policy	2016	Ottawa
Science and Innovation for Development	2015	Ottawa
Emerging Trends in International Trade and Diplomacy: The Role of Science and Technology	2013	Toronto
Global Perspectives in Science and Technology	2010	Montreal
Science and Technology in the Global Village	2009	Toronto
Workshop/Symposium: Science Diplomacy	2016	Ottawa
Workshop/Symposium: Diaspora Scientists	2015	Ottawa
Workshop/Symposium: Science Diplomacy	2013	Toronto

#### **Private Sector And Innovation**

A New Innovation Agenda for Canada	2016	Ottawa
The Impact of Transformative and Converging Technologies on Private Sector Innovation and Productivity	2015	Ottawa
Innovation and Partnerships: A Recipe for Success	2014	Halifax
Advancing Economic Development and Prosperity with S&T	2014	Halifax
Private Sector R&D and Innovation: New Realities and Models	2013	Toronto
Enabling Private Sector Innovation	2011	Ottawa
Increasing Canadian Productivity Using Science and Technology	2010	Montreal
Scientific Research in Economic Growth and Recession	2009	Toronto
Workshop: The Start-Up Meet-Up: A Lean Entrepreneurship Approach to Advancing Innovation	2014	Halifax

#### **Next Generation**

Graduate Studies and Research Training: Prospects in a Changing Environment	2013	Toronto
Creating and Retaining Scientific Talent in Canada	2010	Montreal
Workshop: Nuts and Bolts of Science Policy	2016	Ottawa
Workshop: Entrepreneurship and Career Development	2010	Montreal
Workshop: Nuts and Bolts of Science Policy	2015	Ottawa
Workshop: Nuts and Bolts of Science Policy	2013	Toronto
Workshop: Science Policy 101	2012	Calgary
Workshop: Science Policy 101	2011	Ottawa

#### Sector Specific

Clean Energy and Climate Change as Global Priorities: Implications for Canada? 2016 Ottawa

2010 00000

Big Science in Canada, Realizing the Benefits	2015	Ottawa
The Art and Science of Risk Assessment: A Global Conversation Risk	2014	Halifax
Food, Fuel and Farmers: Agriculture at the Convergence of Multi-Disciplinary Science Policy Issues	2012	Calgary
Innovating on Energy Supply and Demand for More Sustainable Resource Management: A Critical Test for the Integration of Science, Technology and Policy	2012	Calgary
Re-Imagining Canadian Health Care: How Innovation in Science and Policy Can Contribute to a More Sustainable System	2012	Calgary
Exploring the True North, Reflections on Northern Science Policy	2011	Ottawa
Special Focus: International Year of Chemistry	2011	Ottawa
A Glance at Bioscience in Canada	2010	Montreal
Workshop/Symposium: 1st Canadian Symposium on Space Policy	2016	Ottawa

#### **Science And Society**

A New Culture of Policy Making And Evidence-Based Decision-Making: Horizons and Challenges	2016	Ottawa
Evidence Based Decision Making	2015	Ottawa
Transformation of Science Society and Research in the Digital Age; Open Science Participation Security and Confidentiality	2015	Ottawa
Communicating Science and Technology	2013	Toronto
Science-Technology-Society-Nexus	2012	Calgary
Science, Politics and Culture in Canada	2011	Ottawa
Science and Public Engagement	2009	Toronto
Workshop/Symposium: Achieving Diversity in STEM, Advancing Innovation	2016	Ottawa
Workshop/Symposium: Evidence-Based Decision-Making	2016	Ottawa
Workshop/Symposium: Evidence Based Decision Making	2015	Ottawa
Workshop: Science Communication	2013	Toronto
Workshop: K* (Knowledge, Mobilization and Dissemination	2010	Montreal

### **Issues In Science Policy**

Science Funding Review: New Visions and New Directions	2016	Ottawa
Canadian Science and Technology Strategy: Looking Towards 2020	2014	Halifax
Emerging Issues in Canadian Science Policy	2013	Toronto
Major Issues in Canadian Science Policy	2011	Ottawa
Major Issues in Canadian Science Policy	2010	Montreal
Major Issues in Canadian Science and Technology Policy	2009	Toronto
Science and Technology and Canada's Future Challenges	2009	Toronto

# Agenda

## Wednesday, November 1

07:00 - 17:00 RIDEAU CANAL ATRIUM

**Registration and Information Desk** Continental Breakfast available in the Atrium 07:30 - 09:00

Note: A refreshment break will be set up in Gatineau Salon 10:00 – 11:00 for symposia participants. Each organizer may determine best time for a break within that hour.

08:00 - 12:00 TRILLIUM BALLROOM

Innovation150: Lessons Learned on **Pan-organizational Outreach Collaborations** 

#### Symposium

Organized by Innovation150

For Canada's 150th anniversary, five of the country's leading science research and outreach organizations came together to form Innovation150, a unique partnership to inspire Canadian innovators and help build fundamental STEM skills from coast to coast.

Supported by the Department of Canadian Heritage, Innovation150 is led by Perimeter Institute, in collaboration with Actua, the Institute for Quantum Computing at the University of Waterloo, the Canadian Association of Science Centres, and the Canada Science and Technology Museums Corporation.

In this symposium, leaders from each organization will share the lessons they learned in teaming up to deliver this high-visibility, national outreach initiative that engages millions of Canadian youth and their families. The session will focus on:

- Aligning different organizations under a common vision
- Strategies for targeting and tailoring science outreach to very diverse audiences across Canada through inperson, online, and legacy-driven activities
- Creating an infrastructure of open collaboration that encourages regional partners to participate, enhance, and benefit from the project
- Structuring pan-organizational partnerships for success, including governance, sponsorship, and marketing communications
- Recommendations for future science outreach initiatives

### Speakers

Andrew Campbell

Director, Canada 150

Federal Secretariat

Senior Executive

Science Centres





Networks, Ingenium



Tobi Day-Hamilton Communications and Strategic Initiatives, Institute for Quantum Computing at the University of Waterloo





**Stephanie Deschenes** Greg Dick lennifer Flanagar Executive Director, Director of Educational Co-Founder, President Canadian Association of Outreach Perimeter

and CEO. Actua Institute

Filled with candid discussion, interactive opportunities, and anecdotes from Flin Flon to Arctic Bay, we invite you to explore ways to leverage models like Innovation150 to increase the reach and impact of future public engagement initiatives in Canada and beyond.

Innovation150 is a partnership supported by the Department of Canadian Heritage between Perimeter Institute, Actua, the Institute for Quantum Computing at the University of Waterloo, the Canadian Association of Science Centres, and the Canada Science and Technology Museums Corporation.

NOVEMBER 1 - 3, 2017 · OTTAWA, ONTARIO

#### 08:00 - 12:00 GATINEAU 205/207

#### **Science Policy 101**

#### Symposium

Organized by CSPC

Curious about science policy? Whether trying to make a difference or demonstrating impact to funders, the need to engage effectively with policy-makers are increasingly part of the research endeavour. But even many of the most experienced research faculty balk at the barriers to bringing their research to the decision-table. For early career researchers and graduate students, the barriers are even higheras are the rewards.

This workshop will provide a gateway into the world of science policy. You will gain an understanding of what science policy is and how it works through a morning of interactive exercises and discussion. We welcome active participants from all backgrounds, whether in the sciences, engineering, public policy, and administration, business, communications, arts or something else entirely. With an interest in science policy, this workshop is the place to share and expand knowledge, develop skills, and start building a network of interesting people in the world of science policy.



Consulting, Principal

Silke Nebel Kori St-Cyr Science to Action Senior Advisor

Science Strategy at

Canadian Institutes

of Health Research



Jeff Kinder

Director, Federal

S&T Secretariat

Brooke Struck Policy Analyst, Science-Metrix Inc.

#### Science Policy 101 workshop agenda

- Welcome and icebreaker (Jeff Kinder) 8:00 - 8:30
- 8:30 9:45 Introduction to Science Policy (Jeff Kinder)
- 9:45 10:00 Health break
- 10:00 11:15 Science for Policy Exercise (Silke Nebel) 11:15 – 12:00 Panel: "How YOU can get involved in science policy"



# Wednesday, November 1

#### 08:00 - 12:00 ROOM 210

08:00 - 12:00 ROOM 209

Organized by Queens University

Symposium

#### The Next 150 Years of Science in Canada: **Embedding Equity, Delivering Diversity**

#### Symposium

Organized by Imogen Coe, Faculty of Science, Ryerson University

Enhancing equity, diversity, and inclusivity (EDI) in science, technology, engineering and math (STEM) has been described as being a human rights as well as an economic development issue by various individuals and organizations (e.g. OECD). Recent federal policy initiatives in Canada have focused on increasing participation of women in science through increased reporting, program changes, and institutional accountability. However, the Employment Equity Act requires employers to act to ensure the full representation of the three other designated groups: Aboriginal peoples, persons with disabilities and members of visible minorities. A diverse international panel will speak to the issue of accessibility and inclusion and will focus on evidence-based recommendations for policy initiatives to promote full EDI in science in Canada.

The highly qualified personnel, identified as individuals

with university degrees at the bachelors' level and

above, end up being very valuable people for our

has been eroded by lack of support for individual

researchers, and for Higher Education Research and Development there has been a decline in the proportion of federally derived funding.

society in general. The Fundamental Science Review

demonstrated that Canada's research competitiveness

#### Moderator **Speakers**





## Wilfrid Laurier University Speakers







# Manager and General

Canada

#### 12:00 GATINEAU SALON

#### Lunch for Symposia Registrants

#### 13:00 - 14:45 OTTAWA SALON

Opening Remarks: The Honourable Reza Moridi, Minister of Research, Innovation and Science

#### Artificial Intelligence and Discovery Science: Playing to Canada's Strengths

#### Keynotes and Plenaries

Organizer: Friends of CIHR Panel Organizer: FCIHR Forum of 2017 Henry G. Friesen International Prize in Health Research Program Organizer: Aubie Angel

#### 14:45 - 15:00 GATINEAU SALON

#### **Coffee Break**

#### **Keynote Address** Remarks



Alan Bernstein President and Chief Executive Officer, CIFAR



Andre Picard

Eric M. Meslin President/CEO, Council of Health Columnist, Canadian Academies The Globe and Mail

Speakers

The Honourable

Research, Innovation

Moderators

Reza Moridi

Minister of

and Science





Brenda Andrews Doina Precup Director, Andrew's Lab, Associate Professor, University of Toronto McGill University

Dr. Rémi Quirion Chief Scientist of Quebec





Columbia

## Discussants

Linda Rabeneck

and Cancer Control at

Cancer Care Ontario







Dr. Duncan J. Stewart CEO and Scientific Director, Ottawa Hospital Research Institute



Dr. Vivek Goel Vice President, Research and Innovation.

Director Lady Davis Institute of the Jewish General Hospital





University of Toronto

Henry Friesen Professor Emeritus University of Manitoba











Ted Hsu Former Member Canadian House of Commons

Moderator



Dr. Art McDonald Professor Emeritus Queen's University, Nobel Program Leader, Laureate (physics 2015) Imperial Oil



Jesse Vincent-Herscovici Sr. Account Manager and Queen's University Team Lead, Mitacs Inc.



Dr. Lisa Powell Distinguished Health Policy and







Dr. Sean Mercer Environmental R&D



Daniel Woolf Vice-Chancellor of



Professor and Director, Administration, University of Illinois in Chicago









Melanie Goodchild

Waterloo Institute

for Social Innovation

, and Resilience (WISIR),

University of Waterloo

Dr. Mahadeo Sukhai Head of Research, CNIB

**Speakers** 

Dr. Shohini Ghose

for Women in Science,

Founding Director, Centre Research Associate,

## Wednesday, November 1

#### 15:00 - 16:30 ROOM 212

#### 106 – Riding the Wave – **Energy and Environment**

#### Theme 1

Panel Organizer: Rabiz Foda | Terre Policy Center, India

Science and technology are key enablers of economic development. Natural resources are the core of Canadian economic competitiveness. Traditionally, energy is derived from natural resources. The tsunami of extraction of carbon from earth and its explosive addition to the environment for 'mass production', has led to deteriorating global climatic conditions.

To address the nexus between energy, water, health and food, and a transition from resource based to knowledge driven economy, a scientific evolution in energy and disruptive innovations in technology are needed for sustainable development.

In this session, speakers will discuss their vision and strategic directions, policy and planning initiatives for disruptive innovations and transformative challenges for Canada. They will analyze trends and the ability of Canadian science and technology to harness the power of collaboration in a global leadership role for 'enabling our future with sustainable energy'a golden thread that connects rapid economic growth, increased social equity, and an environment that promotes global development and prosperity.

Some points for discussion are:

- 1. Enabling Canada's Science and technology, R&D with emerging economies.
- 2. Climate action from scientific evolution to technological revolution.
- 3. Reorienting scientific temperament towards social innovations, technological entrepreneurship, policies and green growth to contribute to United Nations Sustainable Development Goals (SDGs).
- 4. Innovative approaches in areas of Smart Campus, energy efficiency,
- 5. Adoption of new partnerships including knowledge and technology transfer.

#### Moderator **Speakers**



Rabiz N. Foda Flectric Litility Management Professional, Terre Policy Center, India



Rajendra M. Shende Chairman, TERRE Policy Centre, India ReMAP



Allison Sekuler

and the Sandra A.

Health Sciences

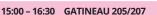
Vice-President, Research

Rotman Chair, Baycrest

Peter Mascher Vice-Provost of International Affairs, Professor and William Sinclair Chair in Optoelectronics, McMaster University



Irene Steriar President and CEO.



#### 201 - Teaching Kids to Code: Implications for Canada's Science Ecosystem

#### Theme 2

Panel Organizer: Tracy Ross, Actua

In Budget 2017, the Federal government announced a new fund specifically designed to support the engagement of youth in digital literacy and coding skills, signalling a political recognition of the critical importance of these skills to Canada's innovation capacity. What does this new program and policy mean for Canada's capacity to produce scientific knowledge? What are today's initiatives and what are the expected results? What are the challenges? Join speakers from leading organizations who are ramping up efforts to engage Canadians from all backgrounds in building digital literacy.

#### 15:00 - 16:30 ROOM 210

306-311 (Merged Panel) - How to Create **Dynamic Agri-food Regulatory Policy in an** Era of Accelerating Technological Innovation?

#### Theme 3 (Merged Panel)

Panel Organizers: Ihor Boszko & Mario Thomas | Ontario Genomics & University of Guelph

Across the globe, innovations are transforming the economy and society, and creating change at an unprecedented and unpredictable pace. The potential for innovations in food systems is huge. The promise is no less than more nutritious, safer food produced at a lower cost, with fewer inputs and with less environmental impact. Emerging technologies arising out the digital revolution and the field of genomics and synthetic biology, such as CRISPR gene editing, are rapidly changing the global agriculture industry. This promise is set against a backdrop of a growing skepticism with current political and economic structures. Divergent responses by governments across jurisdictions, and the pace of policy development and regulatory responses that do not keep up with the speed of technological changes, add to the uncertainties and may further hamper the successful adoption of innovations. Innovators may be reticent to invest in new products because they have difficulty anticipating the commercial regulatory path. At the same time, regulators want to understand what products innovators are working on to be proactive about regulation. This panel brings together diverse representatives from industry, government and academia to share their expert perspectives on the dynamic relationship between regulation and

Speakers



**Jennifer Flanagar** 

and CEO, Actua

Co-Founder, President

Marlene Floyd **Brian Aspinall** Teacher, Speaker National Director Corporate Affairs, Microsoft

Moderator



Melissa Sariffodeer Co-founder, Ladies Learning Code

Moderator

#### **Speakers**



Alliance



Malcolm M. Campbell Vice-President (Research), University of Guelph Food Inspection Agency

Director, Arrell Food Institute, University of Guelph







Cornelia Kreplin Executive Director, Bio Sector, Alberta Innovates Bio Solution

Michael M. Lohuis Crystal Mackay Vice-President, Research President, Canadiar & Development, Semex Centre for Food Integrity



Tyler Whale President, Ontario Agri-Food Technologies





Dr. Pierre Bilodeau Executive Director, Science Branch Canadian

Evan Frase

# Wednesday, November 1

#### 15:00 - 16:30 ROOM 211

#### 301 – Moving from Lab to Market: Models of **Knowledge Translation in Canada**

#### Theme 3

Panel Organizer: Sean Lee | Head of External Relations, TRIUMF

Moving innovation from the laboratory to the market is not only critical to maintaining Canada's position as a global scientific leader, but it is fundamental to our long-term growth and prosperity. This reality is widely recognized across the national science, technology, and innovation landscape, and there are a number of organizations—each with a unique focus and operating model-enjoying successes in this area.

This panel will bring together the leaders of a number of high profile incubator and accelerators from across Canada, representing sectors as diverse as information communication technology, health sciences, and physics. Profiling five case studies, the panel will demonstrate that there is no one-size-fits-all solution for innovation, but rather a mosaic of models, which together can get Canada to where it needs to be vis-à-vis growing global competition.



Moderator

Parimal Nathwani Vice President, Life Sciences, MaRS Innovation



**Speakers** 

Karimah Es Sabar Kathryn Hayashi CEO and Partner, Quark President and CEO. TRIUMF Innovations Inc. Venture Inc.





Laura O'Blenis Co-Founder and Managing Director, Canadian Association of University Research

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#### Gordon C. McCauley President and CEO. The Centre for Drug Research and Development (CDRD)



Rebecca Yu Vice President Market Takeda Canada Parks (AURP)

# Access & External Affairs,

#### 15:00 - 16:30 ROOM 209

#### 307 - Contested Decisions: The Role of **Boundary Organizations**

#### Theme 3

Panel Organizer: Marc Saner | Institute for Science, Society and Policy, University of Ottawa

It has been argued that we not only live in a "post-truth" environment, but also in a "post-normal science" world. Post-normal science is characterized by both high system uncertainty and high stakes. In this situation, achieving evidence-based decisions is often elusive because political values become dominant. The question arises of how to manage the "science/policy interface" within this challenging environment. Boundary organizations such as university institutes and thinktanks claim to be particularly relevant in this context. Can they possibly deliver in a world characterized by high complexity and low trust? And if yes, how?

Moderator



Sonia L'Heureux Karen Dodds Parliamentary Librarian, Former Assistant Deputy Library of Parliament Minister, Environment and Climate Change Canada

Frédéric Bouchard President ACEAS (Association francophone pour le savoir)



Iohannes Klumpers Marc Saner Head of Unit, Scientific Professor, University of Ottawa European Commission

#### 16:30 RIDEAU CANAL ATRIUM

#### Reception

#### 17:30 - 20:30 TRILLIUM BALLROOM

#### **Evening of Celebration and Inspiration**, **Celebrating 150 Years of Canadian Science** Achievement

Note: this event is only open to those who have confirmed attendance by RSVP.

#### Agenda

- 17:30 17:40 Welcome and Introduction; Agenda of the Evening; National Anthem
- 17:40 17:50 CSPC remarks Mehrdad Hariri, CSPC President & CEO
- 17:50 18:00 Introduction of the Governor General by Dr. Remi Quirion, Quebec Chief Scientist
- 18:00 18:20 Governor General Address
- 18:40 18:55 CSPC Science Policy Award of Excellence, Presented by Minister Kirsty Duncan

#### 21:00 LOCATION TBA

#### **Casual Cocktail**

Join us for an informal conversation and cocktails with conference delegates.

#### **Featured Speakers**

Advice Mechanism,



Her Excellency the Dr. Neil Turok **Right Honourable** Director of Perimeter Julie Payette Institute for Theoretica C.C., C.M.M., C.O.M., C.Q., Physics C.D., Governor General and Commander-in-Chief of Canada

- 18:55 19:05 Dr. Art McDonald introduction of Dr. Neil Turok
- 19:05 20:05 "We Are Innovators" Keynote by Dr. Neil Turok
- 20:05 20:10 Adjournment Coffee and Dessert

Canadä

Social Sciences and Humanities Research Council of Canada

Conseil de recherches et

sciences humaines du Canada

**Speakers** 

#### 07:45 - 08:25 OTTAWA SALON

Breakfast Session: Book Launch A Lantern on the Bow: A History of the Science Council of Canada and its Contributions to the Science and Innovation **Policy Debate** 

#### Keynotes and Plenaries

Presenters: Jeff Kinder and Paul Dufour, co-editors; Janet Halliwell and Michael Jenkin, contributing authors

In a "post-truth" world, the need has never been greater for decision makers thirsty for the insights of science, technology and innovation policy to help chart and navigate our common future. As Canada rethinks its science advisory system, there is value in learning from past experiments. This session will engage participants in the history of the Science Council of Canada, an important institution at the intersection of science and governance that operated for a guarter-century between 1966 and 1992. Join co-editors Jeff Kinder and Paul Dufour who will provide

#### 08:30 - 10:00 OTTAWA SALON

#### **Celebrity Chefs: What Ingredients Make** an Effective Supercluster?

#### Keynotes and Plenaries

This panel presents an opportunity for those engaged in the supercluster process - to informally discuss:

- The key ingredients of an effective supercluster
- The benefits they see emerging from the initiative
- How superclusters may facilitate more federal and academic R&D being linked to private sector innovation.

#### 10:00 - 10:30 GATINEAU SALON

**Coffee Break** 

#### Speakers

Co-chair, Science





Janet Halliwell Michael Jenkin Principal, JE Halliwell Retired Senior Public Associates Inc. Servant/ Former Director General, Consumer Affairs, Industry Canada



leff Kinder . Director, Federal S&T Secretariat

an overview of the project and discuss the forthcoming book. They will be joined by contributing authors lanet Halliwell and Michael Jenkin to offer their reflections on the SCC's enduring relevance to the science and innovation policy debate in Canada.

#### Moderator Speakers



**Dave Watters** President/CEO, Global Advantage Consulting and Innovation, Group Inc.





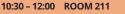
Marc LePage **Avvey Peters** President and CEO. Vice President. Genome Canada Partnerships, Communitech



lain Stewart President, National Research Council Canada



Joy Romero Vice President. Technology & Innovation, Canadian Natura Resources Limited



#### 107 – Canada's Clinical Innovation in Fifty Years: The Future May Be Rare

#### Theme 1

Panel Organizer: Angela Behboodi | Hoffmann-La Roche Limited

Canada has long been a strong contributor to the world's advances in clinical research and health innovation. Harnessing many unique assets that span demographic diversity, to academic leadership, clinical expertise, government commitment and public-private collaboration; sustaining Canada's role as a medical research and health innovation hub is paramount and particularly apparent when examining support for rare disease. As the rate of scientific advancement accelerates, public policy, clinical practice, and health-system adoption have not kept pace and the need for adaptive policy, novel implementation and infrastructure accommodation widens. This gap is only amplified when you consider the "extraordinary" needs of people living with a rare disorder. However, there are areas where great strides have been made and solutions to address these shared challenges have been realized, both here in Canada and across the globe. This panel will surface challenges, opportunities



Thank you to our government agencies for all their decades of support.

#SupportTheReport

## Moderator



Susan Marlin

Ontario

CEO, Clinical Trials

Dr. Lawrence Korngut Dr. Kym Boycott Associate Professor Leader Care4Rare Department of Clinical Canada and Rare Neurosciences, Hotchkiss Brain Institute, University Mechanisms networks of Calgary

Diseases Models and

Speakers



Dr. William McKellin Dr Durhane Medical Anthropologist, Wong-Rieger University of British CEO, Canadian Columbia

Organization for Rare Disorders

and emerging best practices in enabling a sustained, vibrant Canadian science and health innovation environment for orphan and common diseases.

The panel "Canada's Clinical Innovation in Fifty Years: The Future May Be Rare" focuses on the future of clinical innovation as a means to cultivate supportive conditions for improved care for rare patients in Canada. The use of scientific knowledge to improve patient impact and system receptivity is at the core of this topic. More importantly, it raises numerous interesting and difficult policy questions related to how Canada must ready the system to address the "extraordinary" needs of rare patients including; novel clinical innovation strategies, new regulatory and funding mechanisms, infrastructure accommodation and knowledge sharing across boundaries and through centres of excellence.





John Knuhlev University of Toronto



#### 10:30 - 12:00 ROOM 209

#### 202 – Indigenous & Western Science: Gathering New Knowledge Through Co-designed Research

#### Theme 2

Panel Organizer: Jennifer Sokol, Polar Knowledge Canada

The planet is experiencing exponential change, and the Arctic is warming at an accelerated pace, resulting in many environmental, social and economic implications. Western science cannot answer all the questions and is only part of the solution. Indigenous people have been surviving in the Arctic for centuries; they have made observations, tracked animals, lived across the North and are connected to the land and water. This session will address the challenges involved when gathering scientific knowledge from the Canadian Arctic, and the need to gather knowledge in a way that builds on and respects our past, while using the latest technology and anticipating the scientific needs of future. The panel will discuss how the coproduction of knowledge, where western science and Indigenous knowledge is collected together and used as equal ways of knowing, results in an innovative new type of knowledge. This knowledge would not be produced without the collective



Moderator

President and CEO. Polar Knowledge Canada



Rudolph Master's Student, Arctic and Northern Studies program, University of Alaska Fairbanks

interaction of both knowledge systems at the same time. As Canada celebrates its 150 anniversary, what better time to recognize Canada's first peoples, the value of Indigenous and traditional/local knowledge, and the need to equally integrate all ways of knowing as we journey into the next 150 years.

The Centre for Drug Research and Development, Canada's national drug development and

Through collaboration and partnerships with

organizations including Merck, we are committed

to make a difference in the lives of people globally.

Together, we are proud supporters and participants

in the national dialogue on science, technology and

commercialization centre, is a catalyst for Canadian

**Speakers** 

# Please Join Us!

We invite you to join us for a joint announcement at the Reception prior to the Keynote address.

Thursday, November 2<sup>nd</sup> at 5:15pm 2<sup>nd</sup> Floor Atrium. Shaw Centre





innovation policy at CSPC.

life sciences leading the world.



Jean-Sébastien Moore Marie-Eve Neron Assistant Professor Director of Climate Department of Biology, Change and Clean Université Laval Energy, Indigenous and Northern Affairs Canada

#### 10:30 - 12:00 GATINEAU 205/207

325 - Scientists as Conveners and Ambassadors for Facts? Evidence Co-creation for a Hyper-complex Post-fact Politics

#### Theme 3

Panel Organizer: Milena Raykovska | European Commission, Joint Research Centre

A world of a super-abundance of knowledge from sources of variable quality, where complexity has increased exponentially, trust in authorities has diminished and "post-fact" politics appears to be on the rise, creates new challenges for policymakers and scientists who strive towards evidence-informed policies.

The new profession of science advisors requires scientist to be deeply familiar with knowledge at the intersection of policy, democracy and science. To have a policy impact, science advisors need to have the "ability to provide scientific advice in support of policy decisions...effectively addressing the limits of science, the insufficiency of evidence, and appropriately framing uncertainties."

The session will explore the role of scientists wishing to influence policy in today's climate of volatility, uncertainty, complexity and ambiguity. The session will debate a number of questions, some of which brilliantly outlined by Naomi Oreskes (Harvard University), on the calling and responsibilities of scientists. Do facts speak for themselves? What should the role of scientist be? How to be an ambassador for facts and a convener? Should scientists speak only about problems or also about solutions? Doesn't it blur boundaries between science and policy, between facts and values?

Sensitising researchers of the necessity to participate in public and political debates and be ambassadors for their research results opens a whole field of questions, which could make scientists very uncomfortable. The session intends to address these and promulgate universal corner stones for developing and communicating science for policy based on responsibility, integrity, independence, and accountability. The linear model of evidence-informed policy-making has proven to be inefficient. There is an increasing need of 'doing science differently', notably through cocreation and co-production of 'evidence'. To have greater policy impact, we need to move from arms-length, one-shot, silo'ed and slow delivery of knowledge to policy towards iterative, intimate, systems/joined-up approach and just-in-time delivery through co-creation in "epistemic communities".

#### Moderator Speakers





Professor of Biology,

University Research

and Conservation. University of Ottawa

Chair in Macroecology

Monica Gattinger Director Institute for Science, Society

and Policy

David Mair

Head of Unit,

advice to policy

Commission, Joint

Research Centre (the

Commission's science

and knowledge service)

and the Work

Kathryn Graham Executive Director Performance Management and Evaluation. Alberta Innovates



**Bob Walker** Retired Senior Executive/ responsible for Science Former President and CEO Canadian Nuclear Laboratories Programme, European

The session will go a step further and explore which are the best new methodologies, tools (research synthesis, behavioural insights, citizen/society/ stakeholder engagement, policy labs) and skill-sets (knowledge management and community facilitation, communication, visualization) to fulfill this new role. How do scientists increase impact of science on policies? How to build a lasting relationship of trust, co-creation and co-production with the policymakers? How to establish a position of a convener? The session will draw conclusions on what are the training needs of the actors at the evidence for policy interface in order to be better conveners and ambassadors for facts.

#### 10:30 - 12:00 ROOM 212

#### 319 – Science Integrity: Jump-starting Public Science (45 minutes)

#### Theme 3

Panel Organizer: Maxime Gingras, PIPSC & Evidence For Democracy (E4D)

Over 15,000 federal scientists represented by the Professional Institute of the Public Service (PIPSC) are tasked with protecting, among other things, the health and safety of Canadian food, water, transportation systems, buildings and consumer products. They also protect the environment and promote the vitality of our economy through innovations in science and technology. In 2016 PIPSC negotiated with Treasury Board the first-ever collective agreement provision for Scientific Integrity. The new provision includes guaranteeing the right of federal scientists to speak freely about science and their research. At the same time, PIPSC and the federal government agreed to codevelop Scientific Integrity agreements in science-based departments and agencies (SBDAs) staffed by 10 or more scientists.





Moderator

Maxime Gingras

Speakers

Paul Dufour

Co-chair, Science

Integrity Project

Michael Urminsky

Research Team Lead,

NOVEMBER 1 – 3, 2017 · OTTAWA, ONTARIO

PIPSC IPFPC

Katie Gibbs

Democracy

Co-Founder, Executive

Director, Evidence for

Matthew MacLeod RE Group President, Professional Institute of the Public Service of Canada

# SCIENCE INNOVATION COMMUNICATION



#### 10:30 - 12:00 ROOM 212

#### 503 - Bringing Soapbox Science to **Canada: Shifting Gender Norms in Science** (45 minutes)

#### Theme 5

#### Panel Organizer: Leigh Paulseth, Ryerson University

The Fundamental Science Review (Navlor et. al., 2017) has highlighted the importance of embracing diversity in science to "draw on a larger base of talent". It also points out that "the inclusion of diverse perspectives has the further advantage of broadening horizons and improving interpretation of information and decisionmaking alike." The negative impact that a lack of diversity brings to science requires immediate action. Science and the public both hold antiquated gender stereotypes about scientists and therefore specific programming is required to challenge stereotypes and encourage gender diversity in science.

Soapbox Science, founded in the UK, is designed to counteract gender stereotypes and implicit gender bias in science by promoting and highlighting women scientists in academia. Soapbox Science uses public spaces to disseminate scientific knowledge for the general public while serving as an actionable way to advance equity and diversity in STEM. Its impact addresses two key priorities in scientific outreach and public engagement within Canada:

- 1. Promoting the image of female scientists and their work
- 2. Publicly disseminating and promoting scientific research & literacy





Associate Professor of

Organic Chemistry, Ćape

Dr. Stephanie

Breton University

MacOuarrie

Dr. Imogen Coe Professor; Dean, Faculty of Science, Ryerson University



Leigh Paulseth Enrichment & Outreach Coordinator, Ryerson University



Ryerson University



Dr. Nadia Octave Medical Physicist at Centre-Hospitalier Universitaire de Québec, Université Laval





#### 10:30 - 12:00 ROOM 210

#### 502 – Does Canada Have a Science Culture?

#### Theme 5

Panel Organizers: Kirsten Vanstone and Reinhart Reithmeier Royal Canadian Institute for Science

Canadians have ranked Banting and Best, two of the discoverers of insulin, high on their list of heroes. Popular Canadian writer, Alice Munro won the Nobel Prize in Literature in 2013. But, how many know about the work of other Canadian Nobel Prize winners such as John Polanyi (1986), Michael Smith (1993), Bertram Brockhouse (1994), or Art McDonald (2015)? How many know of the discovery of stem cells in the 60s by Till and McCullough at the Ontario Cancer Institute and the enormous potential of this technology in regenerative medicine? In 2014, the Canadian Council of Academies issued a report entitled "Science culture in Canada: where do we stand?" The panel takes off from this report.



Moderator

Ivan Semeniuk Science Reporter, The Globe and Mail



Kelly Bronson Canadian Research Chair Candidate in Science and Society, University of Ottawa

#### 12:00 GATINEAU SALON

#### Lunch

#### 12:30 - 13:30 OTTAWA SALON

#### Luncheon Session: A Conversation with Canada's New Chief Science Advisor -Dr. Mona Nemer

Canada has a new chief science advisor and this session will engage Dr. Mona Nemer in conversation to discuss a wide range of issues of Canadian science policy.



Dr. Mona Nemei Canada's Chief Science Advisor

#### 14:30 - 18:00 GATINEAU SALON

#### Science Policy Awards of Excellence **Poster Session**

Please join us to meet some of the best among the applicants to the CSPC Science Policy Award of Excellence - Youth Category as they share their exciting evidence-based policy ideas at the CSPC's first poster session. Presenters will be with their posters from 14:30 - 15:30 and 17:00 - 18:00.

# Speaker

**Speakers** 



**Chantal Barriault** Maurice Bitran Director Science CEO Ontario Communication Science Centre Program, Laurentian University & Science



Marc LePage President and CEO, Genome Canada

North

#### 13:30 - 15:00 ROOM 211

#### 309 - Science Diplomacy - An International Comparison

#### Theme 3

Panel Organizer: Urs Obrist | Embassy of Switzerland

Science Diplomacy has become an instrument of international collaboration both in the interest to connect scientists around the world as well as using science as a tool for diplomatic activity. The panel discussants will outline their respective countries' focus, strategies and endeavours with regards to science diplomacy and diplomacy for science and discuss possibilities how to enhance collaboration with Canada through scientific channels.

The panel consists of speakers from Japan, France, Germany and Switzerland and provides distinct national science policies.

#### 13:30 - 15:00 ROOM 210

#### 314 – Science at Risk (45 minutes)

#### Theme 3

Panel Organizer: Viviana Fernandez | Human Rights Research and Education Centre University of Ottawa

The importance of science and its contributions to informing public policy have been challenged in recent years. There has been an erosion of the "position of science" in policy debates and the replacement of evidence-based policies with populist ideologies on political platforms in developed and developing countries alike. From the firing of Turkish academics, to the U.S. travel bans which call into question the value placed on foreign scholars, students and researchers, to incidents of hate speech and structural racism affecting immigrants, members of the LGBTQ community, religious minorities, people with disabilities, women, etc., scientists are facing an increasing level of risk to conduct their work. These actions are dampening the international nature of science by effectively limiting the participation of a significant number of colleagues in different fields whose contributions risk being absent from scientific debates going forward. Faced with global challenges like food and energy security or climate change, the scientific community needs to make the case for the role of science in policy, reflecting science as a public good.

**Speakers** 



Senior Science and

Technology Counsellor,

Embassy of Switzerland

Mehrdad Hariri Shiho Fujiwara Founder, CEO & First Secretary, Embassy President, Canadian of Japan in Canada Science Policy Centre

Moderator

Antoine Rauzy

Science and Higher

Education Attaché,

Embassy of France

Moderator



Marcus Stadthaus First Secretary. Science, Sustainable Development, Energy, Embassy of Germany

#### **Speakers**





Viviana Fernandez Fayyaz Baqir Assistant Director University of McGill Human Rights Research and Education Centre





Senior Program Officer, Membership and Outreach, Scholars at Risk

Since higher education is a global endeavour, there is an opportunity for Canadian institutions to recruit global talent and benefit from their expertise. To this end, are there strategic areas in which Canada should focus on to respond to our future challenges? How can we ensure that researchers and students can work to their full potential in Canada? What can Canada do to counter some of the most dangerous trends? What are the risks of not acting to ensure openness, transparency and the free-flow of ideas and people?







#### 13:30 - 15:00 ROOM 210

321 – Bridging the Divide: Incorporating Up-to date Research Findings and Social Shifts into Public Policy (45 minutes)

#### Theme 3

Panel Organizer: Sally Rutherford | Canadian Association for Graduate Studies

The session is based on the opinion piece written by Dr. Martha Crago in University Affairs that addresses the need for academics to share knowledge and ideas with the general public and with policy makers. The panel would focus on the challenges—and importance—of incorporating up-to date research findings and social shifts into public policy. The diverse panel would address the issue from the points of view of the insularity of both the public service and the academy—and how this divide can be bridged.

#### 13:30 - 15:00 GATINEAU 205/207

#### 506 – Big Thinking Panel, Expertise in a Post-truth Era: How to be a Trusted Advisor in a Low-trust World

#### Theme 5

Panel Organizer: Peter Severinson | Federation for the Humanities and Social Sciences

The apparent rise in populist, anti-intellectual sentiment around the world presents serious risks to the research community, public-policy practitioners and, indeed, the functioning of a democratic society. Widespread popular rejection of evidence-backed messages in areas such as the environment, public health, and national security is contributing to destructive policies and behaviours, including inaction on climate change, declining vaccination rates and hostility to immigration. Researchers, business leaders, public servants and other subject-matter experts now face difficult questions: To what extent have they lost public trust? Why do so many reject the findings of experts? What are the consequences of a political discourse that is dismissive of facts? And how can researchers, public servants and other experts build and maintain public trust in the years ahead? This panel will explore these questions by examining the nature of the "post-truth" phenomenon; the social forces that underlie it; and practical steps researchers and public-policy practitioners can take to grow public trust.

Moderator **Speakers** 







Dr. Martine Dubuc President and CEO, Associate Deputy Genome Alberta Minister, Environment and Climate Change



Brenda Brouwer

School of Graduate

Studies, Queen's

Universitv

Vice Provost and Dean

Ronald-Frans Eric Montpetit Melchers Professor, Political Professor of Criminology, Science Department, University of Ottawa Université de Montréal

#### Moderator Speakers



Mark Kingwell

Professor of Philosophy.

University of Toronto

Gabriel Miller Executive Director. Federation for the Humanities and Social Sciences



**Rima Wilkes** President, Canadian Sociological Association



Lisa Kimmel President and CEO. Edelman Canada





#### 13:30 - 15:00 ROOM 209

#### 322 - Leveraging Federal Science: How Provinces Can Make a Difference in Strengthening Canadian Knowledge Production

#### Theme 3

Panel Organizer: Anna Buczek, Council of Canadian Academies

In Canada, science is as much a provincial endeavor as it is a national one. Indeed, as the primary funders of universities, provinces are inextricably linked to Canada's scientific effort. Yet, while both the provinces and federal government play critical roles in supporting science-performing institutions and infrastructure, Canada's science ecosystem is both complex and remarkably uncoordinated.

Understanding the relationship between, and opportunities for, more explicit federal, provincial and territorial science policy may be a way to leverage federal science for the benefit of the country as a whole. By bringing a degree of coordination to the Canadian science policy system, such policies would allow provincial governments to better align this essential resource with provincial priorities and provide a strategic framework for building critical mass for federal science investments to the benefit of not just the provinces but also Canadian science.

Few provincial governments, however, have ever been successful at developing or sustaining their own science policy. With the release of the federal government's review on fundamental science review in 2017, an important opportunity exists to have a serious conversation about the opportunities for both the provincial and federal governments to help strengthen Canadian research.

This panel session will begin this important conversation using three questions:

- 1. Should all provinces be encouraged to develop their own explicit science policies?
- 2. What are the opportunities that would result from greater pan-Canadian multilevel coordination across the science system?
- 3. What are the barriers to realizing these opportunities?

Moderator Speakers

leff Kinde

Fric M. Meslin President/CEO, Council of Chief Executive Officer, Canadian Academies Nova Scotia Health Research Foundation



Dr. Rémi Quirion Chief Scientist of Quebec Development & Trade



Alberta Economic

actual size Canadian genomicsinnovating big ideas working with the very, very small. g Learn more about the amazing work of Canada's genomics enterprise at genomecanada.ca. **Genome**Canada 37

Director Federal

S&T Secretariat



#### 13:30 - 15:00 ROOM 212

#### 401 – How the Culture and Structure of Science Might Change to Address Grand **Societal Challenges**

#### Theme 4

#### Panel Organizer: Dr. Tina McDivitt, Spindle

It is not clear how current organizational, technological and cultural structures of science might provide solutions to complex global issues like climate change, public health and food and water insecurity. This panel will discuss the need for new approaches of scientific research and development to overcome these grand challenges. Focus will be on R&D systems that draw from multiple scientific approaches and engage societies as well as professional and commercial stakeholders in defining the scale, scope and foci of research. Similar systems have sprung and dissipated sporadically in the past to mobilize and effectively act on impending challenges. Highly cited examples include the US Space Programme and the Manhattan Project.

Panelists will outline emerging models of knowledge creation and integration that are cognizant of the nonlinear, highly uncertain and high risk nature of true "leaps and bounds" innovation. Discussion will focus on three major topics: 1) the need for transdisciplinary scientific research where traditional disciplines meld through entirely new processes, reward mechanisms and common languages to answer questions that are derived from societal needs. 2) the need for bridging platforms and dedicated resources to enable science-based transformation of industries 3) the need for collaborative networking where knowledge is created, evaluated and distributed through an array of professional groups and commercial, public research and health organizations.

15:00 - 15:30 GATINEAU SALON

**Coffee Break** 

#### Moderator **Speakers**



Dr. Amy Lang

Quality Ontario

Director of Patient,

Caregiver and Public

Engagement, Health

Mark J. Poznansky Dr. Gordon President and CEO Kurtenbach Ontario Genomics Head of Autodesk Research, Autodesk



Dr. Donald Stuss Founding Director, founding President and Scientific Director, Baycrest's Rotman Research Institute (RRI), Ontario Brain institute





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#### 15:30 - 17:00 ROOM 211

#### 101 – Designing the Scientific "Paper" of the Future

#### Theme 1

#### Panel Organizer: Rebecca Ross | Canadian Science Publishing

In an age of fake news and predatory publishing practices, the role of the publisher is even more important as "gate keepers" of scientific information that has been vetted and reviewed by experts. What is the best way for publishers to foster, preserve, and share the scientific record that leverages the excellence and creative potential of the Canadian scientific enterprise? How can readers best identify trusted sources of scientific information, even without a background in a specific scientific discipline? What changes are required to ensure that scholarly publishing keeps pace with the needs of industry, policy-makers, and the public?

This will also include a discussion regarding the opportunities and challenges of large-scale multidisciplinary research projects. Packaging up these research results to share knowledge back to funders, government, industry, and the general public is an important component of ensuring that Canada obtains the new scientific knowledge that it needs to be prosperous in the future.

The purpose of this panel is to brainstorm the written and graphical outputs of scientific information of the future. The goal is to have an open discussion amongst panelists and with the audience about what kind of content is required to make evidence-based decisions and where that content should live in the online world. Panelists will cover different approaches by publishers to provide lay summaries, article highlights, magazine content, infographics, and other features to collate the content published in scientific articles for a wide readership.

As an interactive component of this session, a graphic recording will be done alongside the presentations and discussion to provide a visual representation and record of the conversation. This graphical recording will provide a visual element to the session and allow for some of the abstract ideas to be represented on paper for additional connections to be made.



Columbia

**Speakers** 



Laura Coristine Steven Cooke Scientist Conservation Biologist and Liber Ero Postdoctoral Fellow, University of British

Moderator

Brian Owens

Freelance writer and

journalist, Nature, New

Scientist, Science, and

the Canadian Medical Association lournal





Chelsea Rochman Assistant Professor. University of Toronto



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#### 15:30 - 17:00 GATINEAU 205/207

#### 304-313 (Merged Panel) -Mobilizing Research for Policy Impact

#### Theme 3

Panel Organizers: Sasha Wood and David Phipps | New Brunswick Social Policy Research Network and York University

How can we more effectively bring new and existing scientific knowledge to bear on Canada's challenges?

Researchers are increasingly expected to plan for and report on economic, social and/or environmental impacts in research grant applications. Universities are complementing investments in technology commercialization with supports for knowledge mobilization that more broadly support researchers and their non-academic partners as they collaborate to develop inclusive impacts on professional practice, public policy and social services. Policy makers are exploring innovative methods of policy development. The focus of this panel will be on efforts universities are making to support collaborations with policy makers, and specifically, the role of knowledge brokers and knowledge brokering organizations to make policy impacts. These collaborations are critically important for impact because researchers don't create policy impacts on their own. Research creates evidence but it is the policy makers that use the evidence as one input into the policy process.

The panel will feature different perspectives on policy research to policy impact processes at both the provincial and federal level. The primary case will be the New Brunswick Social Policy Research Network (NBSPRN). The University of New Brunswick (UNB) hosts NBSPRN on behalf of all four New Brunswick universities and the Government of New Brunswick. Bill MacKenzie (Director of Strategic Partnership, NBSPRN) and Nick Scott (Executive Director of Innovation and Open Government, Government of New Brunswick) will present the case of NBSPRN reflecting on strengths and gaps from each side of the policy research collaboration.

Reflections on NBSPRN will be offered by Moura Quayle (Director, Liu Centre for Global Issues, University of British Columbia) who is working on a proposal for a School of Public Policy and Global Affairs at UBC which will have a mandate for policy impact as well as scholarly excellence. Comments on the role of government and the academy in influencing public policy will be offered by Rodney Ghali (Assistant Secretary of the Innovation Hub at the Privy Council Office). Rodney Ghali leads the PCO Innovation Hub which is experimenting with policy innovation for the federal government including the various contributions academic research and expertise can make to federal policy development

Moderator **Speakers** 



Dr. Robert Haché Vice-President Research Edwards and Innovation, York University



Bill MacKenzie Director of Strategic Partnerships, New Brunswick Social Policy Research Network



Executive Director Open Government and Innovation Government of New Brunswick

The panel will be moderated by Robert Haché (VP Research & Innovation, York University), Chair of Research Impact Canada, Canada's knowledge mobilization network representing 12 universities making investments to maximize the impacts of university research. Dr. Haché will lead the panel in discussing ways the academic institution can help researchers and policy partners collaborate to create policy impacts. The panel will explore issues related to planning for impact, barriers and enablers of successful collaboration, research impact assessment and inclusive innovation.

Respondents to the panel will include Cathy Malcolm Edwards, in her role at Carleton University has participating in Research Impact Canada, Canada's knowledge mobilization network and Matthew McKean, Associate Director of Education at the Conference Board of Canada. Each will reflect briefly on the impact of the panel discussion and the implications to academic (Cathy Edwards) and policy (Matthew McKean) partners. Respondents will set the stage for moderated audience Q&A.

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Cathy Malcolm Rodney Ghali Assistant Secretary of the Managing Director, Innovation Hub, Privy 1125@Carleton, Council Office Carleton University



Moura Ouavle

Director, Liu Institute for

Global Issues at UBC

Matthew McKean Associate Director of Education, Conference Board of Canada



Nick Scott

15:30 - 17:00 ROOM 212

#### 404 - The Canadian Science Policy Fellowship: Lessons from the Inaugural Year

#### Theme 4

Panel Organizer: Stephen Higham | Mitacs Inc.

Last year, in partnership with the University of Ottawa's Institute for Science, Society and Policy and participating federal departments and agencies, Mitacs launched the Canadian Science Policy Fellowship. Modeled after the success of the American Association for the Advancement of Science's Science and Technology Policy Fellowship and the first of its kind in Canada, the program seeks to build linkages between government decision makers and academic researchers. Researchers take on year-long fellowships with a government host to receive a first-hand introduction to government policymaking processes, while contributing to the scientific priorities of their host office.

This new collaboration reflects a growing emphasis on fostering policy competency amongst Canada's researchers to help strengthen the role of science in decision making, and to train the next generation of leaders in science policy. While the inaugural cohort of fellows has since completed their fellowships, two new cohorts are beginning another year of placements, with one in Ottawa with the Government of Canada, and the other in Victoria with the Government of British Columbia.

Moderated by a member of the program's advisory council, which is composed of leading experts in science policy who provide guidance to the program, this panel will be composed of both outgoing and incoming Science Policy Fellows, as well as a representative from a host department from the pilot year. In bringing together these informed perspectives, the panel will foster an exchange of ideas on the role of researchers in policymaking. Outgoing fellows will describe their experiences and observations on the policymaking process, while incoming fellows will outline their initial impressions and expectations for the program. In addition, the host-participant will contribute a broader perspective on the budding value that the program brings to their office and to policymaking, and why they choose to participate.

Questions to be discussed will include:

- What did you learn about policymaking that you would you like academic researchers to know?
- Did your experience with government change your view on policymaking?
- Beyond evidence, what are some key factors that influence policy?
- How can researchers and policymakers strengthen their ties?

#### Speakers



Canado

Moderator

Bonnie Schmidt

Founder and President,

SPFAC member,

Let's Talk Science

Pierre-Olivier Bédard **Kimberly Girling** Canadian Science Policy Canadian Science Policy Fellow, Global Affairs Fellow, Defence Research

and Development

Canada



host, Canadian Food Inspection Agency

Loren Matheson Canadian Science Policy Fellowship

Mahlet N. Mesfir Deputy Director. Center for Science Diplomacy, Office of International Security and International Affairs, American Association for the Advancement of

Science (AAAS)

#### 15:30 - 17:00 ROOM 209

#### 420 – When Technologies Meet: Challenges and Opportunities in an Era of **Technology Convergence**

#### Theme 4

Panel Organizer: Toni Glick, Ontario Ministry of Innovation and Science

Transformative technologies are advancing at an unprecedented pace, with the potential to have a massive impact on society, the economy and our environment. Convergences in areas like Artificial Intelligence, genomics, and quantum computing can unlock solutions to some of our biggest challenges, from improving services in remote communities to predicting and even curing diseases.

It's critical for scientists, businesses and policymakers to join forces to chart the best course forward in this unfamiliar terrain. This panel will bring together great minds to discuss their experiences, ideas and emerging best practices from around the world.

#### 15:30 - 17:00 ROOM 210

504-510 – Changing Perceptions: Engaging the Public with Scientists in the Era of **Alternative Facts** 

#### Theme 5

Panel Organizers: Jesse Rogerson and Stephanie Deschenes Canada Aviation Space Museum and Canadian Association of Science Centres

According to the report Science Culture Canada (Council of Canadian Academies, 2014), Canadians in general have a very positive attitude toward science and technology. With 42% of us having a basic level of scientific literacy, Canada is ranked first among 35 countries. However, a later survey by the Ontario Science Centre found that, though most Canadians believe they are science literate and use science to form opinions, a high proportion said they felt that the science of climate change is unclear (35%), that vaccines are linked to autism (18%) and that genetically modified organisms are not good for our health (57%). In this time of "alternative facts." it is more important than ever to engage citizens in the understanding of the scientific process by which facts are established.

This session will look at how Canada's science centres and museums a) use the science behind science communication to encourage audiences to look deeper at the plethora of information available to form opinions based on fact; b) develop partnerships with other

Moderator **Speakers** 





Kathleen Kauth Irene Sterian Director of Partnerships. President and CEO, Advanced Energy Centre, ReMAP



David Ticoll

(ITAC)

Director Emeritus,

Information Technology

Association of Canada



MaRS

**Michael Tremblay** President and CEO, Invest Ottawa & Bayview Yards

#### Moderator



Stephanie Deschenes

Canadian Association of

Executive Director,

Science Centres

Dr. lesse Rogerson Science Advisor, Canada Director, Science Aviation and Space MUSPU





Managing Director, Royal Ward-Maxwell Research/Programmer, Ontario Museun Astronomy and Space Science, Ontario Science Centre

STEM-based organizations, the research community, academia and industry to engage Canadians of all ages with an end goal of increasing science literacy; and c) demonstrate how delegates can develop similar partnerships to help battle the era of "alternative facts" using solid science.

#### 17:00 GATINEAU SALON

**Reception –** Investing in the Canadian Life Sciences Ecosystem: Hosted by CDRD and Merck

#### 18:00 OTTAWA SALON

#### A Conversation with Minister of Science, The Honourable Kirsty Duncan.

In this one to one with Mehrdad Hariri, CEO & President of CSPC, Minister Duncan will provide insights on the development of Canadian science policy in the past year.

Keynotes and Plenaries



Gordon McCaulev President and CEO, The Centre for Drug Research and Development (CDRD)



The Honourable Kirsty Duncan Minister of Science



#### 21:00 METROPOLITAIN BRASSERIE

#### **CSPC Pub Night**

A casual gathering to relax and enjoy the company of conference delegates



**Speakers** 

Dr. Chantal Barriault

Communication

#### 07:45 OTTAWA SALON

#### Breakfast Session: University Intramural **Research Collaboration**

Organized by the National Research Council

Join Mr. Iain Stewart, President of the National Research Council, for a discussion regarding university intramural research collaborations: collaborative successes and challenges, and future directions for the National Research Council in this regard.

#### 08:30 OTTAWA SALON

Addressing Major Global Challenges through Science and Public Policy: Transdisciplinary and Multidimensional Approaches

#### Keynotes and Plenaries

Panel Organizers: Gordon McBean and Anne Ballantyne | International Council for Science and Centre for the Study of Science and Innovation Policy (CSIP), JSGS, and University of Saskatchewan

The UN 2030 Agenda and the 17 Sustainable Development Goals reflect a wide range of largescale or so-called "wicked" problems linked to the management and sustainability of our environment, natural resources, health and economic systems. Dealing with such challenges requires new approaches for decision-makers in pursuit of effective evidencebased policy solutions. These are problems for which there are many legitimate viewpoints and a variety of economic, social, political, cultural, and moral dimensions. Often there is uncertainty regarding the sources of the problem, as well as the most effective goals, methods and partnerships for its resolution. These challenges require the convergence and integration of disciplinary excellence across the full spectrum of sciences-natural, socio-economic, humanities, engineering and health-to inform comprehensive and effective transdisciplinary solutions. Beyond this however, the role and effectiveness of science and innovation in large-scale change are often questioned. Canada must strengthen its science-policy dialogue. While research illuminates causal relationships and engenders solutions to complex problems, the academy alone is limited in its ability to impact public, policy and industry opinions and perspectives.

This session will focus on research and partnershipbuilding at the science-policy interface. Brief presentations by experts and practitioners from government, academia and industry will include case studies involving transdisciplinary and



Speaker

lain Stewart President of the National Research Council

#### Moderator **Speakers**



Janet Halliwell

Associates Inc.

Amy Luers

Sustainability

Executive Director

Research for Global

Programme, Future Earth

Principal, JE Halliwell

Gordon McBean Charmaine B Dean President, International Dean of the Faculty Council for Science (ICSU) of Science, Western University



Margot Hurlbert lerome Koneschi Proficient Lawver. Professor, Johnson Johnson Shoyama Shoyama Graduate Graduate School of School of Public Policy. Public Policy, University University of Regina of Saskatchewar



Dr. Rémi Quirion Peggy Schmeiser Associate Director and Chief Scientist of Quebec Co-founder, Centre for the Study of Science and Innovation Policy

multidimensional collaboration to highlight lessons learned for sectors like health, the environment and the biosciences. A facilitated exchange among panelists and the audience will target constructive policy solutions for complex multi-sectoral challenges, focusing on supporting policy development through knowledge that integrates both science and political considerations with all their interdependencies and tensions.

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#### 10:00 - 10:30 GATINEAU SALON

**Coffee Break** 

#### 10:30 - 12:00 ROOM 212

#### 315 - Immigration, Integration and the **Production and Utilization of Scientific** Knowledge: What are Canada's Challenges?

#### Theme 3

Panel organizer: Martin Taylor, Canadian Research Data Centre Network (CRDCN)

What is known about the contributions of migrants in the science and technology fields and in innovation and how strong is the evidence? What are the sources of this knowledge and what new initiatives exist in data collection that will extend our insights? What are best practices in immigration and integration policies which can maximize the contributions of migrants in science and innovation? What new directions are emerging in the immigration and integration arenas and how will these contribute to the growth of scientific knowledge in Canada?

Data Centre Network (CRDCN; www.crdcn.org), these guestions are addressed in this panel by experts in data development, immigration policy, the recruitment of highly skilled STEM trained workers, and labour market integration issues. The panel builds upon the evidence base generated from advanced statistical research conducted by CRDCN researchers drawing upon the rich Statistics Canada data files made available through the CRDCN's Research Data Centres. It also anticipates CRDCN's future research directions under its program of collaborative policy-relevant research programs in the theme area of Immigration and Settlement.

recognition that a strong knowledge economy, one focused on innovation and intensive use of technology, is linked to positive economic growth, higher standards of living, growth in productivity, and enhanced environmental and social well-being. Understandably, stimulating innovation and productivity are the objectives of many policies advanced by federal, provincial and territorial governments, the nonprofit



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The context for the panel's discussion is the



#### Moderator Speakers





**Dr. Michelle Gauthier** Jane Badets Special Advisor. Assistant Chief Canadian Research Data Statistician, Social, Centre Network Health and Labour Field, Statistics Canada

Immigration, Refugee and Citizenship Canada

Director General



Ravi Pendakur

Professor of Public and

International Affairs,

University of Ottawa

Arthur Sweetman Professor, Department of Economics, McMaster

University

sector, and business communities. Immigration policies can also further the intertwined goals of innovation, productivity and maintaining Canada's competitive edge in today's global economy.

Today's immigration policy emphasizes the recruitment of the world's best and brightest as permanent residents, as international students and as temporary workers. Migrants contribute to Canada's economy by virtue of being highly educated and or by their training in the STEM fields and their entrepreneurship in generating new firms and products. That said, the full utilization of migrant skills can be dampened by barriers associated with language and re-accreditation requirements, by low take-up rates of international students for permanent residency, and by policies that influence which temporary workers transition to permanent resident status. The panel will explore these issues in depth, sharing both what the data tells us about recent trends and offering suggestions for how Canada can better leverage the skills of new immigrants and migrants for the well-being of all Canadians.

#### 10:30 - 12:00 ROOM 211

#### 320 - The Internationalization of Canadian **Science: Challenges and Opportunities**

#### Theme 3

Panel Organizers: Daryl Copeland, Mehrdad Hariri

In an age of uncertainty and rising populist and nationalist sentiments, science represents a positive and powerful driver of prosperity, security, development and progress. Many countries, including Canada's competitors, have moved to put into place international science policies and programs which respond to the evolving operating environment. Canadian performance, however, has been mixed, and new directions and initiatives must be undertaken if Canada's place in the globalizing world of international science cooperation is to be ensured.

Special opportunities exist for Canada to demonstrate leadership the emerging field of science diplomacy, for instance in efforts to better manage the global commons and achieve the UN SDGs, but



#### Moderator **Speakers**





Daryl Copeland **Professor Pavel Kabat** CGAI and U of M CERIUM IIASA



Jane Barratt

International

Secretary General,

Federation on Ageing

Chibulu Luo Paul Dufour Doctoral Candidate at Co-chair, Science the University of Toronto Integrity Project

re-investment and new partnerships will be essential. This panel will review the record to date, provide a comparative perspective, survey best practices and present options and recommendations for future action.

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10:30 - 12:00 ROOM 210

#### 405 - Open Science and Innovation (45 minutes)

#### Theme 4

Panel Organizer: Tiberius Brastaviceanu | ACES-CAKE

Canada hosts some of the most ambitious pilot projects in open science and open innovation. The problem is that all these initiatives are poorly known and understood, especially those that did not emerge within traditional institutions, which are in fact the most disruptive ones. In this Case Study panel we discuss a few special open science projects that have originated within open innovation networks, and have been conducted in collaboration with forwardlooking academic labs. The panelists will present the methodologies, the infrastructure for collaboration and the governance that have been employed, the resulting benefits, and will analyse some of the problems encountered. These cases constitute a great example of how academia can interface with open networks and communities.

Online communities and networks have become environments buzzing with scientific and technological activities. It is nowadays normal for a graduate student to work in a lab by day and contribute to online communities by night, or spend their evenings in open innovation spaces such as fablabs, makerspaces, and hackerspaces. It is also not a secret any more that students turn to their online peers for technical questions and advice, rather than to their lab colleagues and professors. The most prolific students are those who maintain complex relationships outside of the immediate academic circle. The boundaries of academia are becoming very fuzzy, but there is very little effort to formalize these exchanges between academic labs and online communities/networks, and open innovation spaces.

The cases that will be presented and discussed during this panel will show how interfaces between academia and open innovation communities/networks accelerate scientific discovery and technological transfer.

By presenting and discussing these cases we hope to stimulate other labs to experiment with relations with open innovation networks. At a higher level, we also hope to influence Universities to put in place pilot programs to begin formalizing these kind of relations. SENSORICA affiliates can work with different academic players to transfer their knowledge and know how.





**Speakers** 

Tiberius Fabio Balli Co-founder, Brastaviceanu Co-founder, SENSORICA Breathing Games

Maria Frangos Affiliate & UX Product Designer (Core Development Team member), SENSORICA and Breathing Games



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#### 10:30 - 12:00 ROOM 210

#### 408 - The Scientific and Economic Benefits of **Open Science (45 minutes)**

#### Theme 4

Panel Organizer: Arij Al Chawaf | SGC & Annabel Seyller | Tanenbaum Open Science Institute

How can Canada better deal with complex challenges that have stumped the scientific and innovation communities? With Open Science.

Open Science's principles of unrestricted access to data, ideas, results and materials allows multidisciplinary and cross-sector collaborations to transcend intellectual property restrictions in favour of speed of communication and transparency. Canada has been leading the Open Science movement, with open science projects such as the SGC, launched in 2004, and open science institutions, such as the Tannenbaum Open Science Initiative at the Montreal Neurological Institute, launched in 2016.

In this panel, representatives from academia, industry and policy will address how Open Science can help strengthen the environment and integration of new scientific knowledge by responding to questions such as:

- Reproducibility is identified as a big issue in scientific research. How can open science help?
- Open science prevents translation of scientific discoveries into commercial revenue. True or false?
- How can Canada continue to lead and create impact from the Open Science movement? How can government, policy makers and institutions help create social and economic value from open science?

#### Moderator **Speakers**





Associate Vice President and Head, Boston of Chemical Engineering and Applied Chemistry, Innovation Hub BD&L, and Cell and Systems Merck Research Biology, University of Laboratories



Aled Edwards

Consortium

Dr. Rémi Quirion Chief Scientist of Quebec

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Lizabeth Leveille



Guv Rouleau Chair of the Department of Neurology and Neurosurgery, McGill University

Toronto

10:30 - 12:00 GATINEAU 205/207

501 – Science Slam: An Interactive Framework for Engaging the Public in **Canadian Science** 

#### Theme 5

Panel Organizer: Alan Shapiro | Science Slam Canada

Based on the format of a poetry slam, a science slam is a competition that allows a range of scientific knowledge holders, including professors, researchers, students, and educators to share a topic of interest with a general audience and be judged on their

Science slams have been popular in Europe for more than a decade but have only recently gained traction in North America. Science Slam Canada was founded in 2016 and now runs quarterly science slams in Vancouver. Given rapid growth and broad interest, Science Slam Canada is in the process of expanding to other cities across Canada.

science topic and are judged based on communication skills, audience engagement, and scientific accuracy. The first speaker is designated a 'sacrificial slammer' and serves to set the baseline for scoring. Presentations are delivered to a live audience and are adjudicated by judges selected for their background in science and science communication. Past judges have included university professors, industry scientists, educators, science media personalities, and improvisers.

Because of the focus on communication, knowledge holders are not limited in their choice of topic: past presentations have ranged from graduate students speaking about their own research to educators sharing their topics of interest. Unique to Science Slam Canada, use of a projector or slideshow is not allowed, but props and creative presentation styles are encouraged.



communications skills.

Competitors have five minutes to present on any



#### Moderators

Nikki Berreth

Communication

Speakers

Avhuke Ozel

Co-Founder & Science

Specialist, Science Slam

Canada & LitScientist



Alan Shapiro Co-Founder & Science Communication Specialist, Science Slam Canada & LitScientist





Irem Bor-Yaliniz Masha Cemma Graduate student, Canadian Science Policy Carleton University Fellow, Canadian Food Inspection Agency

Kimberly Girling Canadian Science Policy Fellow, Defence Research and Development Canada



Undergraduate student, University of Ottawa

Peter Sorove Graduate student, University of Ottawa

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#### 10:30 - 12:00 ROOM 209

#### 515 - Short Talk Series

Organized by CSPC

1 – Lessons Learned from the US White House on Using Science to **Meet Policy Challenges** 





3 – Global Perspectives on AMR Innovation: What Does this Mean for Canada?

Panel Organizers: Dani Peters and Robert Livingston Organization: Merck

4 - Breaking Down Barriers for Science Outreach

5 – How to Ensure the Transparency of Scientific Study Designs, their Conduct, and Reporting

6 - Data Science and Social Implications

7 - Open Science is the New Normal for Knowledge Dissemination



Visiting scholar, American Association for the Advancement of Science (AAAS)



Kei Koizumi

Deputy Director, Center for Science Diplomacy, Office of International Security and International Affairs, American Association for the Advancement

Nicole Mahoney Director of Government Affairs & Regulatory Policy. Merck & Co.



Melissa Mathers Graduate Student in Physics and Astronomy, York University



Raymond T. Ng Professor of Computer Science and Chief Informatics Officer, University of British Columbia and PROOF (Prevention of Organ Failure) Centre



12:00 GATINEAU SALON & OTTAWA SALON

Luncheon Session: The Fundamental Science **Review: Perspectives as of November 2017** 

This session will take stock of where we are six months

Advisory Panel on Federal Support for Fundamental

Science. Four members of the Panel will speak to, and engage in discussion on, why the recommendations

following publication of the major report of the

were framed as they were and what they see as

#### Lunch

#### 12:30 - 13:30 OTTAWA SALON

significant issues and next steps.

Keynotes and Plenaries

Moderator





Ianet Halliwell

Associates Inc.

Principal, JE Halliwell

Dr. Martha Crago Vice- Principal of Research and Innovation, McGill University



Dr. David Naylor Dr. Rémi Quirion Professor of Medicine Chief Scientist of Quebec and President Emeritus. University of Toronto

Moderator

Suzuette S. Soomai

Postdoctoral Fellow,

Dalhousie University

**Speakers** 

#### 13:30 - 15:00 ROOM 209

316 - Science for Decision Making at **Fisheries and Oceans Canada:** The Past, Present, and Future

#### Theme 3

Panel Organizer: Sophie Foster, Fisheries and Oceeans

Fisheries and Oceans Canada (DFO) has an established science advisory process, known as the Canadian Science Advisory Secretariat (CSAS) process. The goal of Fisheries and Oceans Canada's (DFO) science peer review and advisory processes is to provide high quality scientific advice and information through rigorous peer review with the overall objective of providing the best possible science advice to the Minister, managers, stakeholders and the public. Peer review meetings are used as a forum for review and challenge of scientific information leading to objective consensus to address specific objectives. Participation is by invitation and participants are chosen for their knowledge on the topic under review.

The panel will explore the origins, current practises, challenges and visions for the future from the perspectives of DFO Science, DFO management, and academia.





Sophie Foster

Science Advisory

Oceans, Ottawa

Acting Director, Canadian

Secretariat, Fisheries and

Dr. Art McDonald

Professor Emeritus.

Queen's University, Nobel

Laureate (physics 2015)

Miriam Padolsky Steven Cooke Senior Policy Advisor Professor, Canada Canadian Environmental Research Chair at Carleton University Assessment Agency



Nicholas Winfield Director General, Ecosystems Management, Ecosystems and Fisheries Management, Department of Fisheries

and Oceans, Ćanada

#### 13:30 - 15:00 GATINEAU 205/207

#### 104 – "Missing Numbers": How Girls and Women Can Help Solve **Canada's Innovation Crisis**

#### Theme 1

Panel Organizers: Teddy Katz and Dr. Betsy McGregor | SHAD

"Missing Numbers" will explore how Canada can rethink its policies to more fully equip and empower girls and women to help solve its innovation crisis over the next 50 years. Despite Canada's impressive resources, our country falls short in punching above its weight as a global leader solving the compelling challenges the world currently faces.

Through powerful personal stories of 'Trail-blazers' and 'Path-makers', this panel will shed light on hurdles still confronting some of Canada's best and brightest girls and women in STEMM—and some policy strategies to close the gender gap, strengthen diversity and achieve inclusiveness in firing up Canada's innovation performance.

A survey by Microsoft found young girls in Europe become interested in STEM subjects around 11 but then lose interest at around 15. A couple of the issues noted were a lack of female role models in STEM subjects, a need for mentors and a need for more hands-on STEM experiences inside and outside the classroom.

SHAD is a case study that meets this challenge headon in Canada. Mentoring 16,000 young Canadians over 37 years in its summer programs on university campuses nationally, SHAD has produced 32 Rhodes Scholars and multiple Science Fair winners. Close to 60 percent of its participants the past 3 years have been girls. The majority go on to study STEM in university.

"Missing Numbers" SHAD panel includes four up-andcoming 'Pathmakers' and SHAD students—or Fellows as they're known-Emily Cross, Winnica Beltrano, Amanda Adam and Bethel Samson. Their stories speak powerfully to persisting bias, hurdles of race and obstacles in rural and remote communities. Equally, each speaks to solutions, inspiring mentors and a shared optimism for a future where their energy and talent can reach its full potential.

#### Moderator **Speakers**



Dr. Betsy McGregor Founder and Facilitator (Global Leader in Advancement of Youth and Women), McGregor Leadership



Paulina Cameron Expert Panel on Youth Employment, Director, Futurpreneur BC



Professor of Physics, University of Winnipeg





**Emily Cross** 



Dr. Melanie Martin



Amanda Adam High School Student. University Student Member of 771 All Girls Robotics Team, Student Leader of her school's University of Calgary STEMR Department, St. Mildred's- Lightbourn School



Erin Engelhardt Program Director of SHAD, Carleton



(SHAD 2017)

Winnica Beltrano

Canada-Wide Science

Fair Award Winner,

Sarah Gauthier **Bethel Samson** Assistant Professor, International Baccalaureate University of Program High School Saskatchewar Student - Summer intern, Megbare Senay Hospital and Addis Ababa University of Pharmacy



#### 409 - Realizing the Impact Chain -From Knowledge Mobilization to Impact

#### Theme 4

Panel Organizer: Eddy Nason | Ontario SPOR Support Unit

Increasingly, jurisdictions around the world are moving towards an accountability climate that requires an understanding of science policy impacts, particularly research funding impacts. Where some jurisdictions have identified an approach based on retrospective analysis of existing impacts from science (for example the UK and their Research Excellence Framework - REF), others such as Canada have taken more of a prospective approach to mobilizing knowledge towards certain desired impacts.

In this session, a panel of four high profile speakers in impact, knowledge mobilization and the use of impact information for science will discuss the ways Canada can take a more holistic approach to realizing the impact chain and measuring progress along it. This will include reflection on international experiences in measuring impacts and knowledge mobilization approaches, and how these approaches have been utilized in Canada to the benefit of science policy and the research system.

By initially laying out the different approaches taken to research and science impact in different countries, the panel will explore the values underlying different approaches to impact assessment, for example, in the UK REF, investigating the rationale for a retrospective approach in terms of both the history of impact assessment in UK science, and the value-proposition of impact information there. The Canadian knowledge mobilization approach identifies why Canadian science has taken this approach to identifying potential impacts. The panel will also investigate the potential overlap between the two approaches and when and why a combined approach may be of value.

The panel will also provide deep contextual detail on the current value of impact assessment of science to both decision makers (provincially and federally) and those in the science world (including researchers, funders and scientific research oversight bodies) providing a more nuanced understanding of how any new approaches to assessing the impact of science could meet the needs of the multiple stakeholders in Canadian science.

In short, this panel has the capacity to look at the when, why and how of impact and to provide some guidance on what next.





Moderator

Eddy Nason

Ontario SPOR

SUPPORT Unit

David Phipps

Universitv

Executive Director.

Research & Innovation Services, Division of

Vice-President Research

& Innovation / Office of

Research Services, York

Assistant Director

Jane Barratt Secretary General, International Federation on Ageing



Dr. Rémi Ouirion Chief Scientist of Ouebec





#CSPC2017

David Budtz Pedersen

Professor and

Co-Director of the

Centre, Aalborg

University

Humanomics<sup>®</sup> Research

High School Student, Canada-Wide Science Fair Award Winner University

#### 13:30 - 15:00 ROOM 212

508 - Engaging the Public Where They Live: **Perspectives from Media Personalities** and Strategists for Better Science Communication

#### Theme 5

Panel Organizer: Shawn McGuirk & Vanessa Sung, Science & Policy Exchange

The steadily declining perception of science in the media has now become a critical and worldwide issue, fueled by the viral spread of pseudoscience and "fake news" in an era where misinformation is prevalent. It has become necessary to enact new and more informed strategies to engage the public on a large scale, to break the stereotype of the "elite" scientist, and to communicate the importance of evidence. consensus, and the scientific method.

Our panel of media strategists and science communicators will describe their success in reaching the public on various media platforms (Twitter, podcasts, television, etc.) as well as how they believe scientists and policy makers can leverage new media to reinvigorate public interest and engagement in science and evidence. To maximize interactions between panelists and the audience, 45-60 minutes will be dedicated to a moderated discussion and question period. The strength of this panel firmly resides in establishing a dialogue between these media experts and our audience of established and aspiring science policy experts at CSPC, and we are confident that this exchange will yield viable and valuable strategies.

The intended outcomes are to generate a set of concrete strategies with which scientists and policymakers alike can deploy to (1) increase their social

#### 15:00 - 16:00 OTTAWA SALON

#### Conference Wrap-up

Moderator **Speakers** 





Nora Young Mark Blevis Host, CBC Radio's Spark President and Digital Public Affairs Strategist,

Editor-in-chief, L'Agence Science Presse Full Duplex Ltd



Alyssa Lerner **Kirstine Stewart** Chief Strategy Officer, Senior Editor, SciShow Diply

media presence in an impactful way, (2) communicate information more effectively to wider audiences, and (3) translate online interactions into more active engagement from the public. These will be communicated broadly through universities, provincial and federal agencies, and other interest groups following CSPC.

Science & Policy Exchange is a non-profit advocacy group run by graduate students and post-doctoral fellows in Montreal, whose aims are two-fold: (1) to foster the student voice in evidence-based decision making and (2) to bring together leading experts from academia, industry, and government to engage and inform students and the public on issues at the interface of science and policy.

# Partners

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